Frequently Asked Questions

Q: Why should I upgrade to AT&T’s 4G LTE and LTE-M networks?

A: AT&T’s 4G LTE and LTE-M networks are more advanced and offer advantages and greater capabilities. The AT&T LTE networks provide the quickest connection with the least latency compared to 2G and 3G networks. LTE-M technology is built for IoT devices with clear advantages over traditional LTE including lower device costs, longer battery life better coverage for IoT devices underground and deep inside buildings and smaller module size. It’s also a licensed low-power wide-area (LPWA) network with carrier-grade security.

LTE Technology

Q: Over what spectrum are you delivering 4G LTE?

A: We’re delivering 4G LTE over 700 MHz spectrum in our markets, with a limited number of markets using 2100 MHz, 850 MHz and 1900 MHz.

Q: What does 4G LTE allow users to do that they can’t accomplish with 3G or HSPA+?

A: The potential benefits of 4G LTE in comparison to 3G or HSPA+ are:

• Faster speeds. LTE technology is capable of delivering speeds faster than many other current commercially deployed mobile Internet technologies.

• Faster response time. LTE technology offers lower latency, which is the processing time it takes to move data through a network. Lower latency helps to improve services like two-way video calling and telemedicine.

• More efficient use of spectrum. Wireless spectrum is a finite resource, and LTE uses spectrum more efficiently than other technologies, creating more space to carry data traffic and services and to deliver a better network experience.
**LTE Build-out and coverage**

Q: In upgrading to a more advanced 4G LTE or LTE-M device, will customers’ coverage be comparable to what they have on the 3G network today?

A: We anticipate coverage will be comparable to the coverage they received from our 3G network. The overall AT&T network covers more than 99% of Americans and our 4G LTE network currently covers more than 400 million people and businesses in North America.

Q: When will the 4G LTE network footprints match that of the 3G network footprint?

A: 4G LTE coverage was at 99% of 3G Coverage at 12/31/2017 and is expected to be at 99.5% by 7/01/2018. Both 4G LTE and LTE-M coverage are expected to exceed 3G coverage by the end of 2018.

Q: How can I find out where 4G LTE is available?


**LTE Speed**

Q. How fast can I expect 4G LTE to be?

A. We expect that in most markets our 4G LTE download speeds will range from 5-12 Mbps, with significantly higher average speeds in many markets, and upload speeds in the 2-5 Mbps range.

**Q&A: Upgrades**

Q: As I plan my upgrades to 4G LTE and LTE-M, how do I know how many devices I have that are not 4G LTE and LTE-M?

A: Customers can use existing reporting tools to identify the technology type of specific devices. If further assistance is required, customers’ AT&T account team can be a valuable resource.

Q: How will AT&T help IoT customers manage their upgrades to 4G LTE and LTE-M?

A: AT&T is committed to providing information to our customers to help manage their upgrade to 4G LTE and LTE-M. Ultimately, customers are responsible for planning their own hardware upgrades. AT&T has developed programs, such as our IoT Accelerator Program, to promote adoption of newer 4G LTE technologies.

For additional information and resources, please access the following websites:

- AT&T IoT: [www.att.com/iot](http://www.att.com/iot)
- IoT devices: [www.iotdevices.att.com](http://www.iotdevices.att.com)
- IoT Accelerator Program: [www.att.com/iotaccelerator](http://www.att.com/iotaccelerator)

Q: Who will bear the cost of upgrades? Is AT&T prepared to support customer upgrades and the development cost of my business’ upgrade to LTE / LTE-M?

A: Customers deploying network technology need to plan for it and the hardware upgrades that support these changes. Customers are responsible for planning their own hardware upgrades. We counsel our customers to make the decisions that best fit their long-term plans within the scope of an evolving network. AT&T has developed initiatives, such as our IoT Accelerator program, to promote adoption of newer 4G LTE and LTE-M technologies.

Q: Once I upgrade to 4G LTE or LTE-M, will AT&T pay for the collection and disposal of my company’s old devices?

A: No, to help ensure the success of the migration effort and to improve network performance, it’s critical that devices are disposed of properly and not reappear on our network. Customers may research and choose an external vendor such as e-Cycle, CelTek Wireless, or WeRecycle (as long as they do not refurbish devices for local use).

Q: What is LPWA?

A: LPWA stands for Low-Power-Wide-Area and refers to networks that play an important role in serving the IoT market because of lower cost module hardware, reduced service costs, smaller form factors, improved battery life, and coverage enhancements. LPWA networks use less power consumption and cover a wide geographic area. The networks can be delivered over licensed dedicated spectrum using 3GPP standards or via unlicensed spectrum using open or proprietary standards.
Q: What is LTE-M?
A: LTE-M is a licensed LPWA network that is a 3GPP standards-based technology evolution of LTE specifically built for IoT devices. LTE-M offers greater indoor penetration, subterranean coverage and extended device battery life at lower costs while leveraging the existing AT&T LTE RAN infrastructure and existing licensed spectrum. LTE-M is also known as LTE CAT-M, CAT-M, or CAT-M1.

Q: How is LTE-M different from other LPWANs?
A: All LPWA technologies can offer long battery life, coverage benefits, and lower costs. However with LTE-M being an evolution of LTE, it offers many advantages over unlicensed technology vendors. They include:

- **Carrier-grade security:** LTE-M has the advantage of SIM security and is managed to avoid interference from other wireless networks and devices.
- **Scalability:** LTE-M has nationwide coverage at launch, unlicensed vendors have to deploy market by market, building new network infrastructure.
- **FOTA/SOTA:** LTE-M has the bandwidth to allow for over-the-air updates of a module firmware or applications on the device.

Q: What are the best use cases for LTE-M?
A: LTE-M could be used for a number of use cases across several industries. Long battery life is ideal for devices expected to be in use for a long time. Better coverage helps devices that are behind thick walls, deep in basements, or subterranean. Lower cost of modules helps enable large deployments of devices. Licensed spectrum and SIM cards help provide carrier-grade security. Mobility allows for cell tower handoff. Additionally, LTE-M’s higher data bandwidth allows it the ability to support FOTA/SOTA which is extremely important when enterprises are introducing new technology and solutions for the very first time.

Metering (Smart Cities), Smart Buildings, Asset Tracking, Asset Monitoring, Retail, Healthcare, Wearables, Home Appliances, Agriculture are all use cases that can benefit from LTE-M.

Q: When will AT&T’s LTE-M network be available?
A: In the US, nationwide launch was on 5/18/2017 covering over 300M POPs. We deployed LTE-M in Mexico in the fourth quarter of 2017.

Q: Is AT&T introducing new LPWA / LTE-M Data plans to coincide with the introduction of LTE-M network?
A: Modules will initially be much lower cost compared to other cellular options lowering the initial cost of deployment. From a service standpoint, new yearly plans were introduced at discounted rates. Contact your account manager for detailed pricing.

Q: How much can we expect modules to cost?
A: AT&T IoT Accelerator program offers LTE-M modules as low as $7.50 each including SIM card and applicable essential intellectual property rights (eIPR).

Q: When and what modules are certified by AT&T for LTE-M use at launch?
A: We’re working with several manufacturers on certification as part of the IoT Accelerator program and have several certified with more coming. Please visit [http://iotdevices.att.com/modules.aspx](http://iotdevices.att.com/modules.aspx) for the most recent list.

Q: Will the IoT Starter Kit support LTE-M?

Q: What speeds can you get on LTE-M?
A: LTE-M runs at half duplex mode with data throughout peaking at 375kbps.

Q: What are the LTE bands and what’s the channel size for AT&T’s LTE-M?
A: AT&T LTE Bands 2, 4, and 12; 1.4MHz Channel
Q: What are our LTE-M global plans?
A: Due to the licensed nature of LTE-M, a global LTE-M deployment requires roaming agreements. However, a global group of leading established network vendors are supporting the GSMA standard, including AT&T, Verizon, Orange, Telefonica, Bell Canada, Telstra, KPN, NTT DoCoMo, and other leading global MNOs.

In addition, we have a global strategy at AT&T and can help put together a global solution for your devices.

Q: What is the SIM IMSI range? Will LTE-M work in AT&T Control Center and AT&T’s Enterprise on Demand (EoD) platforms?
A: LTE-M will be on available on both 310-410 and 310-170 IMSIs and can be utilized in both EOD and Control Center for applicable SIMs.

Voice over LTE (VoLTE)

Q: What is Voice over LTE?
A: Voice over Long Term Evolution (VoLTE) technology is an all-Internet Protocol (IP) technology that supports voice calls over an LTE network LTE uses IP packets for all communications.

Q: I require voice service over LTE (VoLTE). How do I ensure a smooth transition when upgrading my IoT devices from 3G to LTE if voice service is required?
A: If voice is required for LTE, customers must ensure they have a VoLTE-capable device with firmware that supports VoLTE, a UICC-G SIM, a VoLTE rate plan and appropriate AT&T IoT review and approval. Customers should contact their Account Team who can provide specific details on what needs to be done to help ensure a smooth transition from 3G to LTE if voice service is required.